

Lessons from Farmers Performing Agroforestry for Reclamation of Gold Mine Spoils in Colombia

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Abstract : Alluvial gold mining generates a vast amount of deposits that cover the natural soil and negatively impacts riverbeds and valleys, causing loss of livelihood opportunities for farmers of these regions. In Colombia, more than 79,000 ha are affected by alluvial gold mining, therefore developing strategies to return this land to productivity is of crucial importance for the country. A novel restoration strategy has been created by a mining company, where the land is restored through the establishment of agroforestry systems, in which agricultural crops and livestock are combined to complement reforestation in the area. The purpose of this study is to capture the knowledge of farmers who perform agroforestry in areas with deposits created by alluvial gold mining activities. Semi structured interviews were conducted with farmers with regard to the following: indicators of soil fertility, management practices, soil heterogeneity, pest outbreaks and weeds. In order to compare the perceptions of soil fertility of farmers with physicochemical properties of soils, the farmers were asked to identify spots within their farms that have exhibited good and poor yields. Soil samples were collected in order to correlate farmer's perceptions with soil physicochemical properties. The findings suggest that the main challenge that farmers face is the identification of fertile soil for crop establishment. They identify the fertile soil through visually analyzing soil color and compaction as well as the use of spontaneous growth of specific plants as indicator of soil fertility. For less fertile areas, nitrogen fixing plants are used as green manure to restore soil fertility for crop establishment. The findings of this study imply that if gold mining is followed by reclamation practices that involve the successful establishment of productive farmlands, agricultural productivity of these lands might improve, increasing food security of the affected communities.

Keywords : agroforestry, knowledge, mining, restoration

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